1. In a data processing system including a host and at least one disk array storage device including a plurality of first logical devices for interacting with a first application and that constitute a consistency group and one second logical device that can interact in a first mode as a mirror for a corresponding first logical device in the consistency group, a method for enabling the shift of the second logical devices to the second mode in a consistent manner whereby each second logical device can interact with a second application with read and write capabilities, said method for shifting to the second mode comprising the steps of:

    A) generating a request data structure for each second logical device,

    B) preventing write operations to any of the first logical devices in the consistency group,

    C) initiating a shift all of the identified second logical devices in the consistency group to the second mode after said disablement, and

    D) enabling write operations to all the first logical devices in the consistency group upon completion of said shifting whereby interactions between the first application and all the first logical devices in the consistency group resume and whereby the second

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application can interact with the second logical devices in the consistency group.

2. A method as recited in claim 1 wherein the disk array storage device includes a buffer and a write operation includes a first transfer of data from a host to the buffer as a write pending entry and a second transfer of the write pending entry to a logical device and wherein said shifting of a second logical device to the second mode includes detaching the second logical device from its corresponding first logical device, attaching the second logical device to the second application and managing the transfer of write pending entries in the buffer, said initiation of the shift of the identified second logical devices including said detaching and attaching steps.

3. A method as recited in claim 2 wherein said managing of write pending entry transfers occurs after said write operations to said first logical devices resume.

4. In a data processing system including a host and at least one disk array storage device including a plurality of first logical devices for interacting with a first application and that constitute a consistency group and a second logical device that can interact in a first mode as

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a mirror for each corresponding first logical device in the consistency group, a control means for enabling the shift of the second logical devices to a second mode in a consistent manner whereby each second logical device can

5   interact with a second application with read and write capabilities, said controller comprising:

A)   request means for generating a request data structure for second logical device,

B)   locking means for preventing write operations to any

10   of the first logical devices in the consistency group,

C)   mode shift means initiating a shift all of the identified second logical devices in the consistency group to the second mode after said disablement, and

15   D)   unlocking means for enabling write operations to all the first logical devices in the consistency group upon completion of said shifting whereby interactions between the first application and all the first logical devices in the consistency group resume and

20   whereby the second application can interact with a second logical device in the consistency group.

5.   A system as recited in claim 4 wherein the disk array storage device includes a buffer and a write operation includes a first transfer of data from a host to the

buffer as a write pending entry and a second transfer of the write pending entry to a logical device and wherein said shifting of a second logical device to the second mode includes detaching the second logical device from its

5 corresponding first logical device, attaching the second logical device to the second application and managing the transfer of write pending entries in the buffer, said interaction means enabling the resumption of interaction between the first application and corresponding first

10 logical devices after the detaching and attaching of all the identified second logical devices.

6. A system as recited in claim 5 wherein each of said identified second logical devices includes means for

15 managing write pending entry transfers after said interaction means enables the resumption of interactions between the first application and the first logical devices.

7. A program for operation in a data processing system

20 including a host and at least one disk array storage device including a plurality of first logical devices for interacting with a first application and that constitute a consistency group and one second logical device that can interact in a first mode as a mirror for a corresponding

first logical device in the consistency group, the program

enabling the shift of the second logical devices to the

second mode in a consistent manner whereby each second

logical device can interact with a second application with

5   read and write capabilities, said program comprising:

A)   a module for generating a request data structure for

each second logical device,

B)   a module for preventing write operations to any of

the first logical devices in the consistency group,

10   C)   a module for initiating a shift all of the identified

second logical devices in the consistency group to

the second mode after said disablement, and

D)   a module for enabling write operations to all the

first logical devices in the consistency group upon

15   completion of said shifting whereby interactions

between the first application and all the first

logical devices in the consistency group resume and

whereby the second application can interact with the

second logical devices in the consistency group.

20   8. A program as recited in claim 7 wherein the disk array

storage device includes a buffer and a write operation

includes a first transfer of data from a host to the

buffer as a write pending entry and a second transfer of

the write pending entry to a logical device and wherein

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said shift initiating module detaches the second logical

device from its corresponding first logical device,

attaches the second logical device to the second

application and a write pending module manages the

5   transfer of write pending entries in the buffer.

9.   A program as recited in claim 8 wherein said write pending

module manages write pending entry transfers after said

write operations to said first logical devices resume.